

Serial No.: 10/031,972

AMENDMENTS IN THE CLAIMS:

1. (Previously Presented) A method for controlling an output power of a laser which is used for recording information on a recording medium, comprising steps of:

detecting emitted light of the laser by a first detection section;

obtaining a first driving current of the laser by a first control section based on an output of the first detection section;

detecting reflected light or transmitted light from the recording medium by a second detection section; and

obtaining a second driving current of the laser by a second control section based on an output of the second detection section,

wherein the laser is driven based on the first driving current or the second driving current while the first control section and the second control section are operated alternately such that the second control section does not operate when the first control section is operating, and the first control section does not operate when the second control section is operating, and information is recorded on the recording medium while the second control section is operating.

2. (Original) A laser power control method according to claim 1, wherein the first control section operates when reproduction information data is not recorded or reproduced.

3. (Original) A laser power control method according to claim 2, wherein: in the recording medium, a region where data is to be recorded is divided into sectors; and when a laser irradiation position is within a gap region where recording/reproduction of data is not to be performed within the sectors, the first control section operates.

Serial No.: 10/031,972

4. (Previously Presented) A laser power control method according to claim 3, wherein: the first control section performs a calculation for obtaining an I-L characteristic which represents a relationship between a driving current and an optical output of the laser; and the first driving current is obtained based on the I-L characteristic.

5. (Original) A laser power control method according to claim 4, further comprising a step of obtaining the second driving current based on an output of the second detection section, the I-L characteristic obtained by the first control section, and appropriate laser power stored in an apparatus by the second control section.

6. (Original) A laser power control method according to claim 1, wherein when the first control section operates after the second control section has operated, and then the second control section is operated again, the second control section operates based on an output of the second detection section which was obtained immediately before the operation of the previously-operated first control section.

7. (Original) A laser power control method according to claim 1, wherein: an operation of the second control section is stopped in a region where it is previously known that no defect exists; and the second control section uses an output of the second detection section obtained when the first control section is operated as a reference so as to drive the laser according to an output variation in the second detection section with respect to the reference.

8. (Original) A laser power control method according to claim 7, wherein: a movement section for moving a laser irradiation position on the recording medium is used; an operation of the second control section is stopped when the laser irradiation position is moved by the movement section; an output of the second detection section

Serial No.: 10/031,972

obtained when the first control section is operated is obtained again as a reference; and the second control section is operated after the reference has been obtained.

9. (Original) A laser power control method according to claim 8, wherein, when the reference is obtained again, a value obtained from the output of the second detection section which is output after the laser irradiation position is moved by the movement section and before the laser irradiation position reaches a recording target position, is obtained as the reference.

10. (Original) A laser power control method according to claim 7, wherein an output of the first control section is changed when a speed at which emitted light of the laser scans the recording medium is varied, a reference is changed based on the varied value.

11. (Original) A laser power control method according to claim 1, wherein: the recording medium is a body of revolution; a varied value for the output of the second detection section is maintained to be the same value even after the time required for rotation of the recording medium or more has elapsed; and if the value exceeds a predetermined value, the output of the first control section is changed such that the output of the second detection section is within a range defined by the predetermined value.

12. (Currently Amended) A laser power control method, comprising steps of:

detecting reflected light or transmitted light from a recording medium by a detection section;

driving a laser by a control section ~~according to~~ based on an output of the detection section; and

correcting the output of the detection section ~~at generally the same rate according to a variation rate for an output of the control section~~ by delaying for a time

Serial No.: 10/031,972

necessary to detect the reflected light or the transmitted light from the recording medium by the detection section at a rate required to have an inverse number of a variation rate for an output of the control section.

13. (Canceled)

14. (Original) A laser power control method according to claim 13, wherein the start of correction is delayed by utilizing a phase delay characteristic of a low pass filter.

15. (Original) A laser power control method according to claim 12, wherein: table data including a plurality of output values of the control section that are identified by addresses, which are corresponding output values of the detection section, is employed; the control section selects data which is identified by an address in the vicinity of an output value of the detection section and outputs the selected data; an output of the detection section which is output when an emission limit of the laser is exceeded is previously calculated as a maximum output value before the control section is operated; the address corresponding to the maximum output value is used as a selectable maximum address; and when data which is selected when the control section is operated is an address equal to or greater than the maximum address, the output of the control section is clipped with data represented by the maximum address.

16. (Original) A laser power control method according to claim 15, wherein: the table data includes first table data which corresponds to the output of the control section and second table data which represents a correction to the output of the detection section; and the second table data is formed by corrected values with respect to an output error generated by rounding because of a limited word length of the first table data.

Serial No.: 10/031,972

17. (Previously Presented) A laser power control method according to claim 1, wherein: when a laser irradiation position on the recording medium is shifted from a recording position, the control section changes an output of the laser so as to be equal to or smaller than a power appropriate for erasing data; when the laser irradiation position returns to the recording position, an output of the laser is changed to a previously-employed output.

18. (Original) A laser power control method according to claim 3, wherein when the laser irradiation position is within the gap region, the laser performs test emission while changing the power at a low speed, in comparison to emission performed while changing the power at a high speed which is suitable for recording of data.

19. (Previously Presented) An optical disc apparatus for recording/reproducing information on an optical disc by using a laser, comprising:
a first detection section for detecting emitted light of the laser;
a first control section for obtaining a first driving current of the laser based on an output of the first detection section, and outputting the obtained first driving current;
a second detection section for detecting reflected light or transmitted light from the optical disc;
a second control section for obtaining a second driving current of the laser based on an output of the second detection section, and outputting the obtained second driving current;
a selection section for selecting one of the outputs of the first and second control sections as a driving current for driving the laser; and
a driving section for driving the laser based on the selected driving current, wherein information is recorded on the optical disc while the second control section is operating, so that recording of information can be performed with an appropriate laser power.

Serial No.: 10/031,972

20. (Original) An optical disc apparatus according to claim 19, wherein:
the first control section is structured so as to obtain an I-L characteristic which represents a relationship between a driving current and an optical output of the laser based on the output of the first detection section and outputs the obtained I-L characteristic; and
the second control section is structured so as to obtain the second driving current based on the output of the second detection section, the I-L characteristic, and the appropriate laser power stored in the apparatus.

21. (Currently Amended) A laser power control method according to claim 12, wherein: when a laser irradiation position on the recording medium is shifted from a recording position, the control section changes an output of the laser so as to be equal to or smaller than a power appropriate for erasing data; when the laser irradiation position returns to the recording position, an ~~output~~ output of the laser is changed to a previously-employed output.